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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,595	09/06/2000	William F. Beausoleil	POU9-2000-0045-US1	9321

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EXAMINER	
STEVENS, THOMAS H	

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/655,595	BEAUSOLEIL ET AL.	
	Examiner	Art Unit	
	Thomas H. Stevens	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 June 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-5 were examined.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show where the test data is coming from as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. In addition to Replacement Sheets containing the corrected drawing figure, applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Marked-up Drawings" and must be presented in the amendment or remarks section that explains the changes to the drawings. See 37 CFR 1.121(d). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Information Disclosure Statement

4. The listing of references in the specification (i.e., amendment to the specification, dated 6/1/04) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A (1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification is unclear whether this process of changing the inputs is manual or electronic nor defines the source of the "1s" and "0s".

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

When a claim or part of a claim is defined in computer program code, whether in source or object code format, a person of skill in the art must be able to ascertain the metes and bounds of the claimed invention. In certain circumstances, as where self-documenting programming code is employed, use of programming language in a claim would be permissible because such program source code presents "sufficiently high-level language and descriptive identifiers" to make it universally understood to others in the art without the programmer having to insert any comments. Applicants should be encouraged to functionally define the steps the computer will perform rather than simply reciting source or object code instructions (MPEP 2106, pgs 2100-19---2100-20).

Design Choice

8. The examiner is rejecting a segment of claims 1-5 based on design choice because the process of cable adjustability between the emulators and integrated circuits is integral to the entire process, (specification: pgs 5-6, lines 29-32 and 1-8, respectively) thus is not patentable advance (see *In re Stevens*, 212 f.2d 197, 101 USPQ 285 (CCPA 1954)).

Claim Rejections - 35 USC § 103

9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable by Larson et al (U.S. Patent 6,504,841 (2003)) in view of Fakhraie-Fard et al. (U.S. Patent 5,157,665 (1992)). Larson et al. teaches 3-D interconnection for multi-stage switching networks using flexible ribbon cable connection between multiple planes (title);but t doesn't teach emulation or testing of an electronic device. Fakhraie-Fard (FF) et al. teaches methods of troubleshooting electronic devices via emulation.

At the time the invention, it would have been obvious to one of ordinary skill in the art to use Fakhraie-Fard et al. to modify Larson et al. since evaluation of a device by way of the any industry standard confirms optimal performance and profitability.

Clam 1. In an emulator (Larson: column 26, lines 11-13; FF: column 4, lines 54-66) that includes printed circuit boards (FF: interconnected by a multi-conductor cable with inputs at one end of the cable and corresponding outputs at the other cable end, a method for determining the length of the cable while the cable is installed in the emulator there by interconnecting the printed circuit boards (FF: column 4, lines 54-66): prior to installing the cable, interchanging the inputs or outputs of at least one pair of conductors to denote a cable length; inputting a test pattem to the cable comprised of binary data (FF: column 80, lines 53-62); collecting an output data pattem from the cable that results from the test pattern; determining the cable length from the output pattern (FF: column 4, lines 54-66); compiling the an emulation program to account for each interchanged pair of conductors, the emulation program corresponding to a logical design for an integrated circuit (Larson: column 26, lines 8-26).

Claim 2. The method for determining the length of the cable as in claim 1(Larson: column 26, lines 11-13; FF: column 4, lines 54-66; FF: column 4, lines 54-66) wherein said test pattem is a pattern of alternating binary "1's' and "0s" (FF: column 80, lines 53-62).

Claim 3. The method for determining the length of the cable as in claim 1 (Larson: column 26, lines 11-13; FF: column 4, lines 54-66; FF: column 4, lines 54-66) wherein one cable length is denoted by having no interchanged pair of conductors (being able to twist the cable so it compatible to the opposite connector; Larson: column 26, lines 8-26).

Claim 4. The method for determining the length of the cable as in claim 2 (Larson: column 26, lines 11-13; FF: column 4, lines 54-66; FF: column 4, lines 54-66; FF: column 80, lines 53-62) wherein one cable length is denoted by having no interchanged pair of conductors.

Claim 5. A method for determining length of a multi-conductor cable (Larson: column 11, lines 37-44) installed in an emulation system (FF: column 79, lines 47-55), the emulation system having a first printed circuit board electrically communicating with a second printed circuit board via the multi-conductor cable so that the emulation system can execute an emulation program corresponding to a logic design, the multi-conductor cable having a plurality of inputs at one end and a corresponding plurality of outputs at

the other end (FF: column 22, lines 9-18), comprising: prior to installing the cable, interchanging the inputs or outputs of at least one pair of conductors to denote a cable length (Larson: column 2, lines 15-21); inputting a test pattern to the cable comprised of binary data (FF: column 80, lines 53-62); collecting an output data pattern from the cable that results from the test pattem (response; FF: column 21, lines 38-59); determining the cable length from the output pattem (design choice); compiling the emulation program (FF: column 22, lines 9-18) so that the interchanged pair of conductors is accounted for when the emulation program is run on the emulation system.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is (571) 271-0365, Monday-Friday (8:00 am- 4:30 pm) or contact Supervisor Mr. Kevin Teska at (571) 272-3716. The fax number for the group is 703-308-1396.

Any inquires of general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (571) 272-1400

November 17, 2004

THS

KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER